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(54) Title of invention: Stick cosmetic

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[Translator's note:
The term used in this patent is "silicon oil", not "silicone oil", which appears in the other two patents S60-255714 and S62-169714.]

SPECIFICATION

1. Title of invention
Stick cosmetic
2. Claims
A stick cosmetic that is characterized in that it contains 20-50 wt% powder and 15-50 wt% silicon oil having a viscosity of -- 100 cs [centistokes].
3. Detailed Description of the Invention
This invention concerns an improved stick cosmetic. More specifically, it concerns a stick-shaped makeup cosmetic that has good usability, such as being easy to apply, and conveys an impression of depth with no gloss in the coating color.

Stick cosmetics, in which cosmetics containing oils and/or wax and powder are molded into stick form, are used, for example, as eyeshadow to make the eyes beautiful or as lipstick to make the lips attractively expressive.

Heretofore, most of these stick cosmetics have had a gloss in their coating color, but recently those who are high fashion-minded have come to favor lipstick or eyeshadow whose color itself has a straight feeling of matte impression in which all the light is suppressed.

But if one simply increases the quantity of powder blended into a stick cosmetic, the gloss will disappear in the coating color, but drawbacks will arise: the extensibility will be heavy and its fit to the skin will be bad; it has not been possible to have a stick cosmetic that both has no gloss in its coating color and is easy to apply to the skin.

After continuing research to find a solution to these drawbacks in light of this situation, the inventors of this invention have arrived at the completion of this invention based on the knowledge gained from discovering, through repeated diligent research, that a stick cosmetic in which a specified quantity of a specified silicon oil is added to and blended with oils

and/or waxes and powder will have a unique impression and deep color tone without coating-color gloss, will be easy to apply to the skin, and will also have the other properties of a stick cosmetic.

That is, this invention provides a stick cosmetic that is characterized in that it contains 20-50 wt% (hereafter abbreviated to simply %) powder and 15-50% silicon oil having a viscosity of 100 cs.

[Translator's note: The mostly blank upper-left quadrant on page 24 of the Japanese text, -- like the upper-left quadrant on page 25, the lower-left quadrant on page 25, and the upper-left quadrant on page 26 -- contains the notation "(Following is blank)", presumably to warn the reader that the blank space is not a redaction. This notation becomes unnecessary in the English translation.]

In the following we describe the composition of this invention in detail.

The powder used in this invention is a natural or synthetic powder; for example, one may cite one or two or more species of an extender pigment such as talc, mica, kaolin, titanium dioxide, or flowers of zinc, an organic pigment such as litholrubin BCA or litholrubin B, and an inorganic pigment such as iron oxide, Prussian blue, or ultramarine.

Generally, organic pigments or inorganic pigments are used in suitable combination to obtain the beautiful color tone required for a makeup cosmetic.

Among extender pigments, kaolin is the most desirable in terms of usability, etc.

The blended quantity of powder is selected in the range of 20-50%, but preferably 30-40%. At less than 20%, the impression of glossless depth is insufficient, and at more than 50%, the usability becomes heavy, which is not desirable.

For the silicon oil used in this patent, one can cite dimethyl polysiloxane, methyl phenyl polysiloxane, methyl hydrogen polysiloxane, etc. Any one species or two or more species of these can be used, but dimethyl polysiloxane is preferable.

It is required that the viscosity of the silicon oil (measurement conditions: BL type viscometer, low-viscosity adaptor, 30 rpm, 25°C) be no greater than 100 cs, and preferably no greater than 50 cs. Above 100 cs, the extensibility becomes heavy, which is undesirable for usability.

The blended quantity is 15-50%, and preferably 20-30%. At less than 15%, one cannot obtain a sufficient impression of glossless depth, and at more than 50%, the compatibility with the other components worsens and the hardness declines with time, which is undesirable.

The blended quantity of silicon oil and powder should be 95% or more for the sake of the composition of the formulation as a stick cosmetic. Beyond 95%, the quantity of oils or waxes referred to below becomes insufficient, and it becomes difficult for the stick to be formed.

For the stick cosmetic of this invention, it is necessary to have oil and/or waxes in addition to the silicon oil and powder.

The oil should be one that is highly safe for the skin, and one may use those that are well known and have been used in the field of cosmetics.

For example, they are fluid paraffin, squalane, isopropyl myristate, olive oil, castor oil, etc. One species or two or more species are arbitrarily selected from among these. The blended quantity is generally 5-40%.

The waxes, too, are waxes that are generally used in cosmetics; for example, one may list ceresin wax, lanolin, solid paraffin, microcrystalline wax, vaseline, beeswax, carnauba wax, candelilla wax, etc. One species or two or more species are arbitrarily selected from among these. The blended quantity is generally 1-30%.

In addition to the above mandatory ingredients, one may also blend into the stick cosmetic of this invention, as necessary, humectants, scents, drugs, anti-oxidants, surfactants, etc. Of course, these must be of a type and quantity that do not detract from the purpose of this invention.

The stick cosmetic of this invention also has other properties demanded of a stick cosmetic: having a deep glossless impression in its coating color, being easy to apply to the skin, usability, as well as other usability such as ease in removing, water resistance, oil resistance, hardness stability, etc.

Next, we describe this invention in greater detail by means of working examples. This invention is not limited to these.

The blended quantities are expressed in wt%.

(Working examples 1, 2, 3, comparison examples 1, 2, 3) Lipstick

Raw materials	Comparison example 1	Comparison example 2	Working example 1	Working example 2	Working example 3	Comparison example 3
1 Ceresin wax	5	5	5	5	5	5
2 Polyethylene wax	4	4	4	4	4	4
3 Candelilla wax	6	6	6	6	6	6
4 Olive oil	30	45	25	15	-	35
5 Dimethyl polysiloxane *	-	-	20	30	50	40
6 Kaolin	45	30	30	30	25	-
7 Litholrubin BCA	10	10	10	10	10	10

*-1: Used the kind having a viscosity of 6 cs

(Manufacturing method)

1-5 were heated to 90°C and dissolved. To this were added 6 and 7, they were mixed by stirring, then the mixture was poured into a metal mold 10 mm in diameter at 80°C and molded.

(Effects)

A quality evaluation of working examples 1, 2, 3 and comparison examples 1, 2, 3 was made; the results are given in Table 1.

Table 1

Item	Comparison example 1	Comparison example 2	Working example 1	Working example 2	Working example 3	Comparison example 3
Ease of application *-2	x	◎	◎	◎	◎	◎
Color depth *-3	△	x	○	◎	◎	x
Gloss *-4	○	△	○	◎	◎	x
Glossiness *-5	3.0	3.8	2.0	1.8	1.6	9.0

*-2: Evaluation by function in actual use.
- ◎: very easy to apply
- ○: easy to apply
- △: difficult to apply
- x: very difficult to apply

*-3: Evaluation by function in actual use.
- ◎: much depth
- ○: depth
- △: no depth
- x: no depth at all

*-4: Evaluation by function in actual use.
- ◎: no gloss at all
- ○: no gloss
- △: gloss
- x: much gloss

*-5: Glossiness measured using a glossimeter

(Measurement conditions)

Model: Gross[sic; Gloss?] Sensor VG-2R (Japan Electric Color Industries)

Reflection angle: 60°

Measurement temperature: room temperature

Samples: Fixed quantity applied uniformly onto a nylon cloth.

(Lower numerical values indicate lack of glossiness.)

As is clear from the results in Table 1, it was confirmed that the stick cosmetic of this invention is superior in the effect of conveying an impression of glossless depth in the coating color, and that it has ample functionality as a stick cosmetic.

(Working examples 4, 5, 6, comparison example 4) Lipstick

Raw materials	Comparison example 4	Working example 4	Working example 5	Working example 6
1 Microcrystalline wax	10	10	10	10
2 Carnauba wax	5	5	5	5
3 Castor oil	10	10	10	10
4 Olive oil	5	5	5	5
5 Dimethyl polysiloxane *-6	30	-	-	-
6 Dimethyl polysiloxane *-7	-	30	-	-
7 Methyl phenyl polysiloxane *-8	-	-	30	-
8 Methyl hydrogen polysiloxane *-9	-	-	-	30
9 Kaolin	30	30	30	30
10 Litholrubin BCA	10	10	10	10

*-6: Used the kind having a viscosity of 150 cs
*-7: Used the kind having a viscosity of 6 cs
*-8: Used the kind having a viscosity of 15 cs
*-9: Used the kind having a viscosity of 50 cs

(Manufacturing method)

1-8 were heated to 90°C and dissolved. To this were added 9 and 10, they were mixed by stirring, then the mixture was poured into a metal mold 10 mm in diameter at 80°C and molded.

(Effects)

A quality evaluation as with working examples 1, 2, 3 was made; the results are given in Table 2.

Table 2

Item	Comparison example 4	Working example 4	Working example 5	Working example 6
Ease of application	△	◎	◎	◎
Color depth	○	◎	○	○
Gloss	◎	◎	○	○
Glossiness	2.1	2.0	2.4	2.1

As is clear from the results in Table 2, it was confirmed that the stick cosmetic of this invention is superior in the effect of conveying an impression of glossless depth in the coating color, and that it has ample functionality as a stick cosmetic.

(Working example 7) Eyeshadow

1	Polyethylene wax	6.0
2	Carnauba wax	1.5
3	Sorbitan sesquiolate	1.0
4	Fluid paraffin	36.4
5	Dimethyl polysiloxane (viscosity 6 cs)	15.0
6	Mica	5.0
7	Kaolin	20.0
8	Iron oxide	15.0
9	Scent	0.1

(Manufacturing method)

1-5 were heated to 90°C and dissolved. To this were added 6-9, they were mixed by stirring with a homo mixer, then the mixture was poured into a metal mold 10 mm in diameter at 80°C and molded.

(Effects)

A functional evaluation and glossiness measurement as with working examples 1, 2, 3 confirmed that it is superior in the effect of conveying an impression of glossless depth in the coating color, and that it has ample functionality as a stick cosmetic.

Patent applicant: Shiseido Co., Ltd.